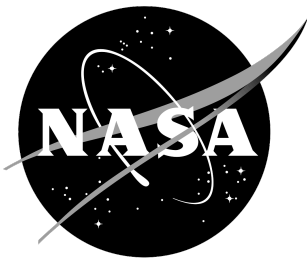1

9 0

3 4 2 8

2 9 2 3 2 0

2 0 1 8 4 1 6 3

1 7 8 5 3 9 5 2 0 6

# By The Numbers

1st Edition

January - June 2012

Welcome to CIMA. This is the first edition of our bi-annual *By The Numbers* report. In this report we'll share our mobile device analytics from January to June 2012. After the analytics we'll follow up with some analysis on trends we are seeing. If you are interested in finding out more about CIMA visit our website http://cima.nasa.gov.

# Analytics

All analytics presented in this reported were generated using Pulse (https://pulse.nasa.gov). Pulse is a tool for capturing analytical and operational data (logging, transactions, etc.) for mobile and web applications. Pulse captures three types of analytic information: technology, audience and application. Technology analytics deals with the types of devices (phones and tablets) being used. An example of this would be visits by device type (Android, Blackberry, iOS). Audience analytics deals with who is accessing an application(s). An example of this is would be visits by centers.  Application analytics deal with the type of application that the user is using such as visits by application version or downloads from apps@NASA. Pulse is freely available to all NASA application owners. If you interested in capturing analytics on your mobile and/or web applications, contact CIMA to request an account.

All analytical information presented here was captured across the following NASA internal applications:

- NASA Apps (iOS)

- NASA Contacts (Android, iOS)

- WebTADS Mobile (Blackberry, iOS)

In this section we present to you the unbiased numbers for a particular analytic(s) between January 1st 2012 and June 30th 2012, with one exception. Because not all device types (Android and Blackberry) are supported on all applications cross-platform analytics can be skewed.  Where applicable, we'll normalize the data to try and share a more accurate view of the current state (any normalization performed will be called out in the section).

## Terminology

The following terms will be used throughout this section.

- Visit - A single user session. Authenticated applications always require a login at the start of a visit. It ends when either the user explicitly logs out or the session times out.

- User - A NASA employee (civil servant or contractor) that has been authenticated with Launchpad credentials.

- Device - A phone or a tablet.

- Device Type - The platform of a device. One of Android, Blackberry or iOS.

- Device Model - The model of a particular device type. Examples include iPhone (iOS), iPad (iOS), Galaxy Nexus (Android), and 8820 (Blackberry).
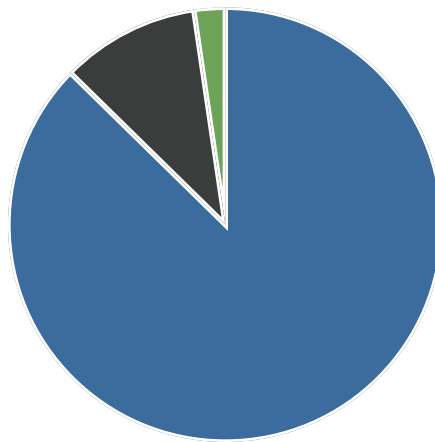
# Technology

## Device Type

The following charts shows the total number of visits and users by device type (Android, Blackberry, iOS). These numbers are skewed because not all applications support all platforms. Several normalized comparison charts will follow these to try and give a more accurate view.
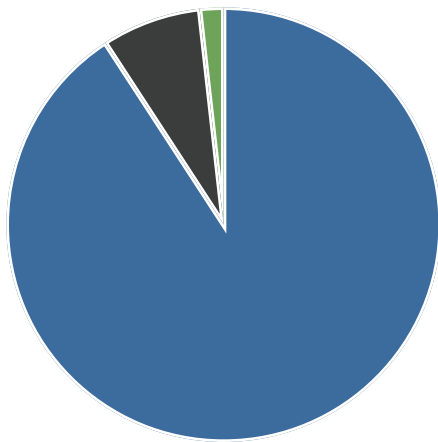
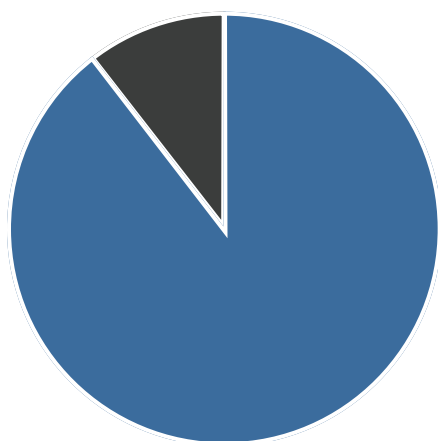Visits By Device Type            Users By Device Type

● iOS          ● Blackberry          ● Android

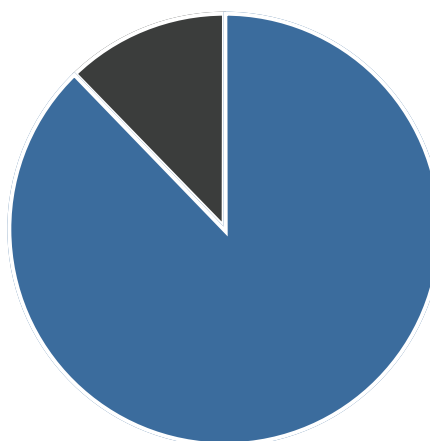| Device Type | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| iOS | 45,230 | 91% | 4,429 | 87% |
| Blackberry | 3,692 | 7% | 524 | 11% |
| Android | 885 | 2% | 118 | 2% |

## Device Type Normalized for Blackberry

The following device type charts compare visits and users for all applications that support both iOS and Blackberry.

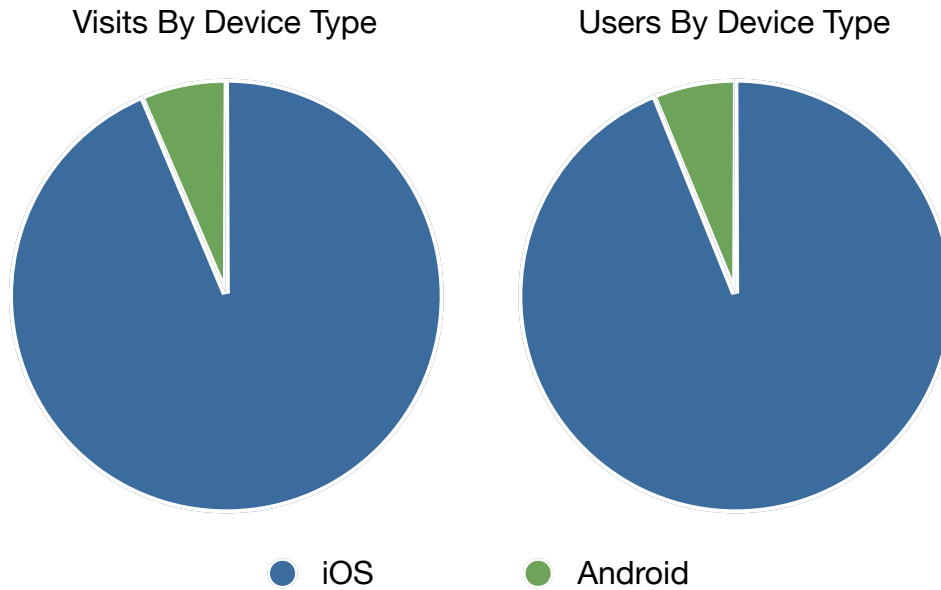### Visits By Device Type          Users By Device Type



● iOS          ● Blackberry

| Device Type | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| iOS | 31,537 | 90% | 3,754 | 88% |
| Blackberry | 3,692 | 10% | 524 | 12% |

## Device Type Normalized for Android

The first Android application was released in late February of 2012. The following is a comparison of visits and users by device types for this application since March 2012 for Android and iOS.

### Visits By Device Type　　　Users By Device Type



● iOS　　　● Android

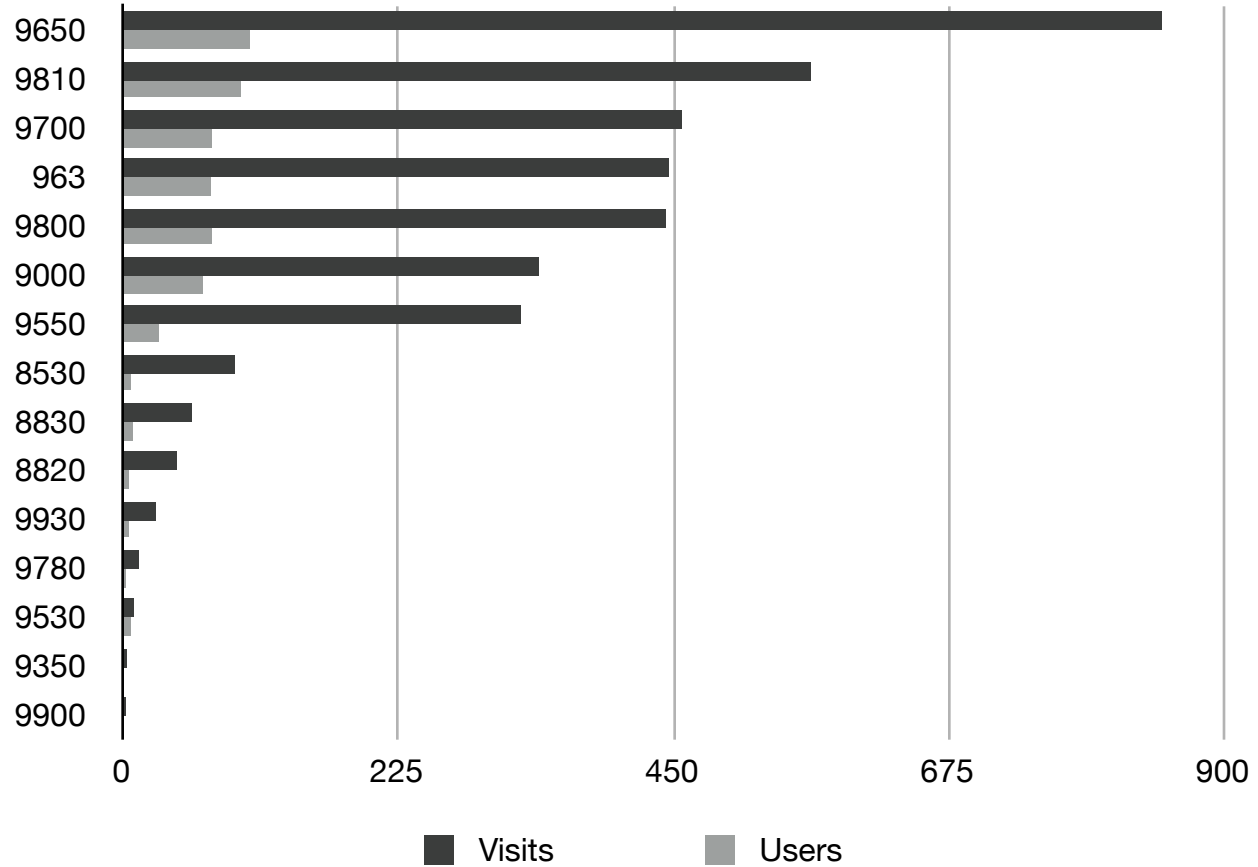| Device Type | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| iOS | 12,947 | 94% | 1,793 | 94% |
| Android | 885 | 6% | 118 | 6% |

# Device Model

The following charts show the visits and users by device model for each of the supported device types.

## Android Device Models

The number of device models for Android is much higher than on any other platform. Because of the number of models just the raw data in the table below is presented.

| Android Device Model | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| Samsung Galaxy Nexus | 145 | 16.3% | 5 | 3.8% |
| Samsung Galaxy S | 88 | 9.8% | 6 | 4.5% |
| Verizon Droid | 53 | 6.0% | 8 | 6.0% |
| Verizon Droid3 | 52 | 5.8% | 7 | 5.3% |
| Verizon DroidX | 52 | 5.8% | 7 | 5.3% |
| Samsung Galaxy S2 | 50 | 5.6% | 4 | 3.0% |
| Verizon Droid Razr | 49 | 5.5% | 11 | 8.3% |
| Samsung Epic 4G | 40 | | 7 | 5.3% |
| Verizon Droid Bionic | 38 | 4.2% | 4 | 3.0% |
| Verizon Droid Incredible | 33 | 3.7% | 3 | 2.2% |
| HTC PC36100 | 31 | 3.5% | 5 | 3.8% |
| Verizon Droid2 | 23 | 2.6% | 1 | 0.8% |
| LG P999 | 21 | 2.4% | 2 | 1.5% |
| Samsung Stratosphere | 18 | | 3 | 2.2% |
| Motorola Atrix 4G | 14 | 1.6% | 3 | 2.2% |
| TMobile myTouch 4G | 14 | 1.6% | 3 | 2.2% |
| HTC Thunderbolt | 14 | 1.6% | 2 | 1.5% |
| Samsung Galaxy Tab | 12 | 1.3% | 4 | 3.0% |
| Verizon Droid 4 | 11 | 1.2% | 4 | 3.0% |
| Motorola Triumph | 10 | 1.1% | 1 | 0.8% |
| HTC Sensation | 10 | 1.1% | 1 | 0.8% |
| ASUS Transformer Prime | 9 | 1.0% | 2 | 1.5% |
| LG Optimus | 7 | 0.8% | 1 | 0.8% |
| LG Optimus T | 6 | 0.7% | 2 | 1.5% |
| LG Optimus V | 6 | 0.7% | 2 | 1.5% |
| Motorola Atrix 2 | 5 | 0.6% | 2 | 1.5% |
| HTC Nexus One | 5 | 0.6% | 2 | 1.5% |
| HTC Desire HD | 4 | 0.5% | 1 | 0.8% |
| Motorola X | 4 | 0.5% | 1 | 0.8% |

| Android Device Model | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| Sprint ZTE | 4 | 0.5% | 1 | 0.8% |
| T-Mobile G2 | 4 | 0.5% | 1 | 0.8% |
| LG Revolution | 4 | 0.5% | 1 | 0.8% |
| HTC Rezound | 3 | 0.3% | 2 | 1.5% |
| Motorola Xoom | 3 | 0.3% | 2 | 1.5% |
| HTC Vision | 3 | 0.3% | 1 | 0.8% |
| Samsung Infuse | 3 | 0.3% | 1 | 0.8% |
| ASUS Transformer | 3 | 0.3% | 1 | 0.8% |
| HTC HD2 | 2 | 0.2% | 1 | 0.8% |
| HTC Wildfire S | 2 | 0.2% | 1 | 0.8% |
| Samsung Nexus S | 2 | 0.2% | 1 | 0.8% |
| Huawie U8150 | 2 | 0.2% | 1 | 0.8% |
| Ematic eGlide Prism | 2 | 0.2% | 1 | 0.8% |
| Toshiba AT100 | 1 | 0.1% | 1 | 0.8% |
| Verizon Droid Pro | 1 | 0.1% | 1 | 0.8% |
| Verizon Droid 2 Global | 1 | 0.1% | 1 | 0.8% |
| HTC Glacier | 1 | 0.1% | 1 | 0.8% |
| Kindle Fire | 1 | 0.1% | 1 | 0.8% |
| Samsung SCH-1510 | 1 | 0.1% | 1 | 0.8% |
| LG Vortex | 1 | 0.1% | 1 | 0.8% |

## Blackberry Device Models



| Blackberry Device Model | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| 9650 | 849 | 23% | 104 | 18.6% |
| 9810 | 562 | 15.2% | 96 | 17.2% |
| 9700 | 457 | 12.4% | 73 | 13.1% |
| 9630 | 446 | 12.1% | 72 | 12.9% |
| 9800 | 444 | 12.0% | 73 | 13.1% |
| 9000 | 340 | 9.2% | 65 | 11.6% |
| 9550 | 325 | 8.8% | 29 | 5.2% |
| 8530 | 91 | 2.5% | 6 | 1.1% |
| 8830 | 56 | 1.5% | 8 | 1.4% |
| 8820 | 44 | 1.2% | 5 | 0.9% |
| 9930 | 27 | 0.7% | 5 | 0.9% |
| 9780 | 13 | 0.4% | 2 | 0.4% |
| 9530 | 9 | 0.2% | 6 | 1.1% |
| 9350 | 3 | 0.1% | 1 | 0.2% |
| 9900 | 2 | 0.1% | 1 | 0.2% |

**Device Models for iOS**

## Visits By Device Type
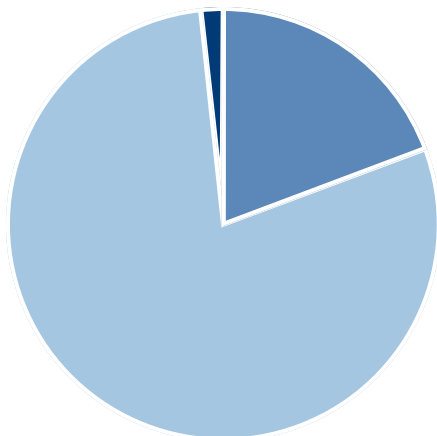
## Users By Device Type
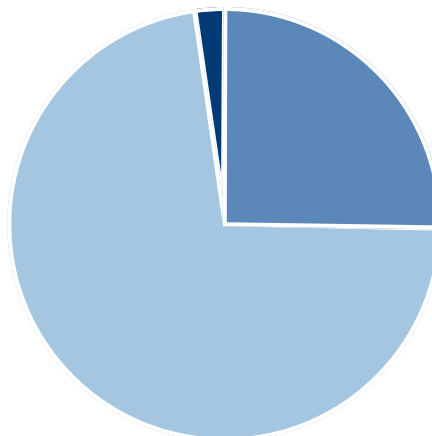


● iPad    ● iPhone    ● iPod

| iOS Device Model | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| iPad | 8,710 | 19% | 1,197 | 25% |
| iPhone | 35,686 | 79% | 3,434 | 73% |
| iPod | 756 | 2% | 105 | 2% |

## OS Versions

The following charts show the number of visits and users operating system versions on each platforms.
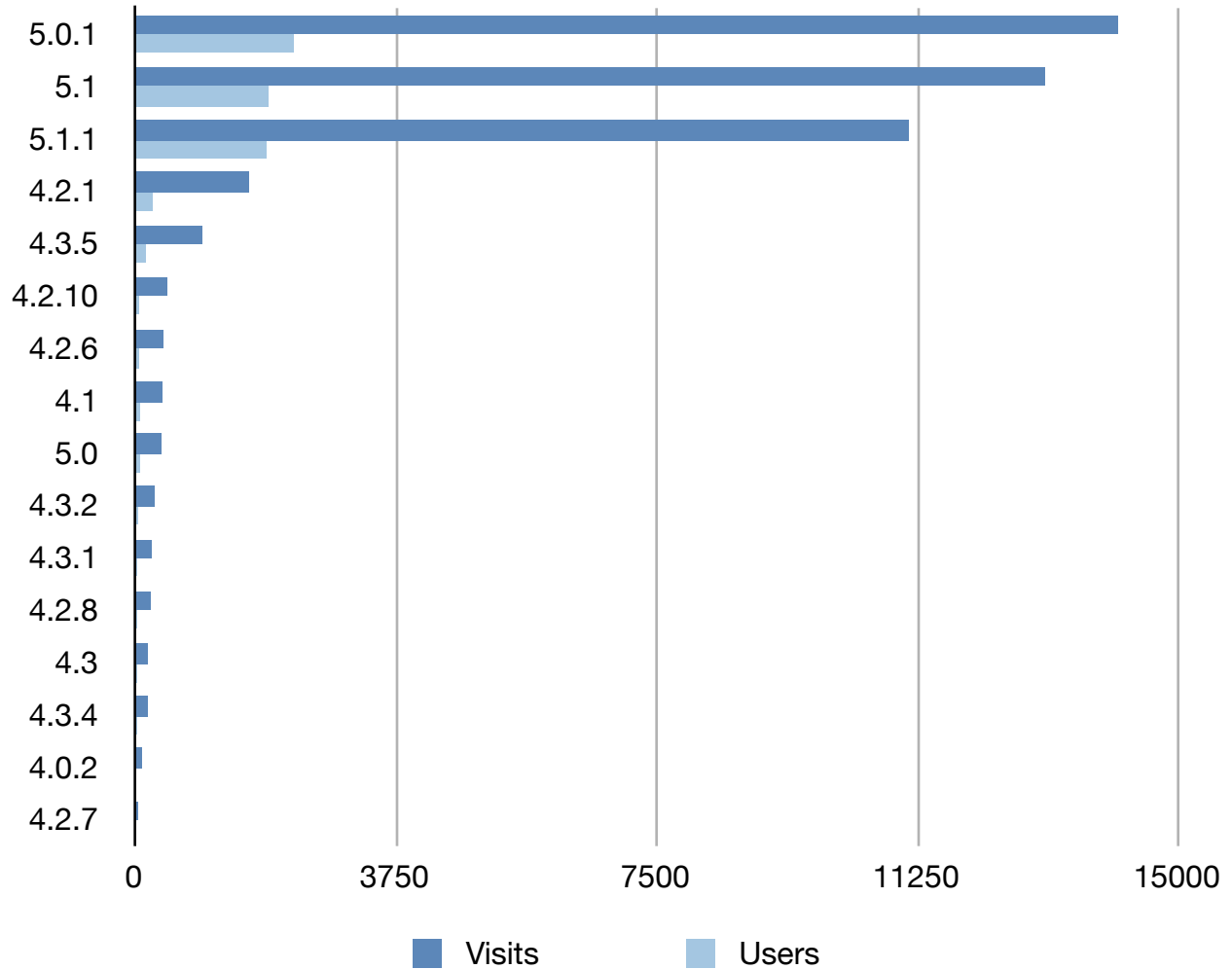
### OS Versions for Android
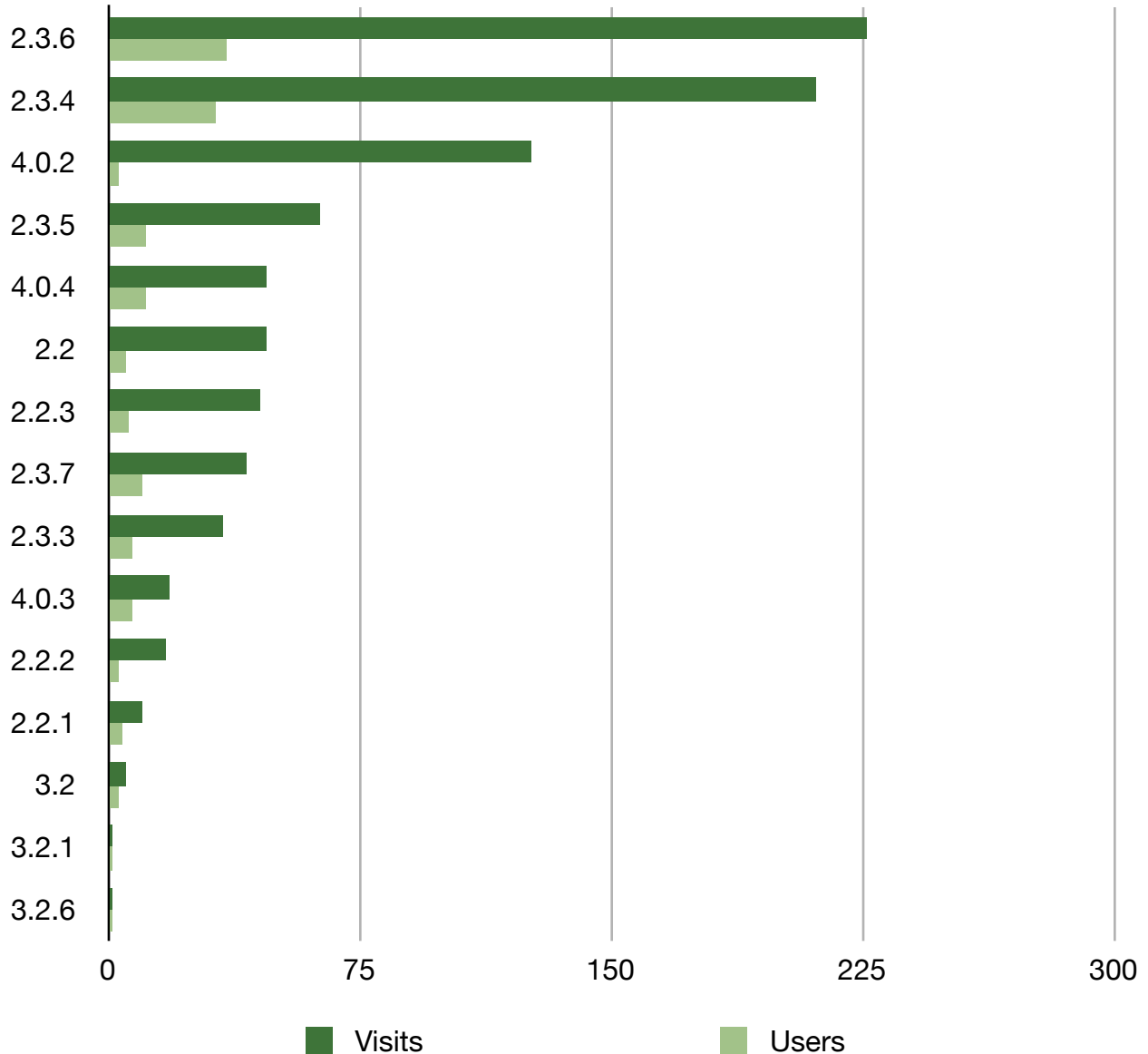


| iOS OS Versions | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| 2.3.6 | 226 | 25.3% | 35 | 25% |
| 2.3.4 | 211 | 23.6% | 32 | 22.9% |
| 4.0.2 | 126 | 14.1% | 3 | 2.1% |
| 2.3.5 | 63 | 7.1% | 11 | 7.9% |
| 4.0.4 | 47 | 5.3% | 11 | 7.9% |
| 2.2 | 47 | 5.3% | 5 | 3.6% |

| iOS OS Versions | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| 2.2.3 | 45 | 5.0% | 6 | 4.3% |
| 2.3.7 | 41 | 4.6% | 10 | 7.1% |
| 2.3.3 | 34 | 3.8% | 7 | 5.0% |
| 4.0.3 | 18 | 2.0% | 7 | 5.0% |
| 2.2.2 | 17 | 1.9% | 3 | 2.1% |
| 2.2.1 | 10 | 1.1% | 4 | 2.9% |
| 3.2 | 5 | 0.6% | 3 | 2.1% |
| 3.2.1 | 1 | 0.1% | 1 | 0.7% |
| 3.2.6 | 1 | 0.1% | 1 | 0.7% |

**OS Versions for Blackberry**
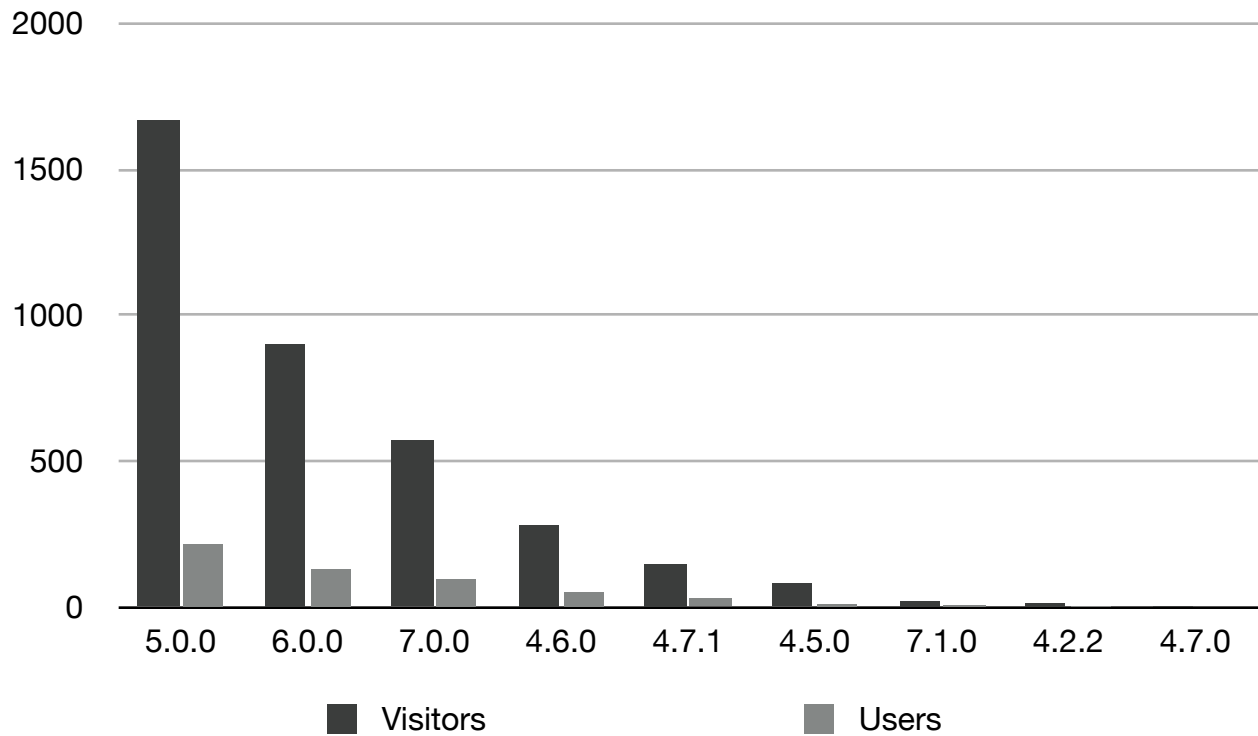


| Blackberry OS Versions | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| 5.0.0 | 1,668 | 45.0% | 218 | 38.8% |
| 6.0.0 | 903 | 24.4% | 132 | 23.5% |
| 7.0.0 | 572 | 15.4% | 99 | 17.6% |
| 4.6.0 | 282 | 7.6% | 53 | 9.4% |
| 4.7.1 | 150 | 4.0% | 31 | 5.5% |
| 4.5.0 | 83 | 2.2% | 12 | 2.1% |
| 7.1.0 | 23 | 0.6% | 9 | 1.6% |
| 4.2.2 | 17 | 0.5% | 4 | 0.7% |
| 4.7.0 | 6 | 0.2% | 3 | 0.5% |

## OS Versions for iOS



| iOS OS Versions | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| 5.0.1 | 14,132 | 31.1% | 2,284 | 31.9% |
| 5.1 | 13,074 | 28.7% | 1,916 | 26.7% |
| 5.1.1 | 11,121 | 24.4% | 1892 | 26.4% |
| 4.2.1 | 1,629 | 3.6% | 253 | 3.5% |
| 4.3.5 | 959 | 2.1% | 155 | 2.2% |
| 4.2.10 | 453 | 1.0% | 47 | 0.7% |
| 4.2.6 | 408 | 0.9% | 51 | 0.7% |
| 4.1 | 393 | 0.9% | 63 | 0.9% |
| 5.0 | 376 | 0.8% | 67 | 0.9% |
| 4.3.2 | 280 | 0.6% | 43 | 0.6% |
| 4.3.1 | 233 | 0.5% | 32 | 0.4% |
| 4.2.8 | 227 | 0.5% | 26 | 0.4% |
| 4.3 | 181 | 0.4% | 32 | 0.4% |

| iOS OS Versions | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| 4.3.4 | 176 | 0.4% | 21 | 0.3% |
| 4.0.2 | 93 | 0.2% | 12 | 0.2% |
| 4.2.7 | 41 | 0.1% | 4 | 0.1% |
| 4.0 | 40 | 0.1% | 12 | 0.2% |
| 4.2.9 | 30 | 0.1% | 8 | 0.1% |
| 4.0.1 | 25 | 0.1% | 8 | 0.1% |
| 6.0 | 18 | 0.0% | 5 | 0.1% |
| 4.2 | 10 | 0.0% | 6 | 0.1% |
| 3.2.2 | 9 | 0.0% | 1 | 0.0% |
| 3.1.3 | 2 | 0.0% | 1 | 0.0% |
| 4.2.5 | 1 | 0.0% | 1 | 0.0% |

# Network

Mobile users can use a variety of networks to access data services. The following chart displays the type of networks we've seen accessing mobile applications.
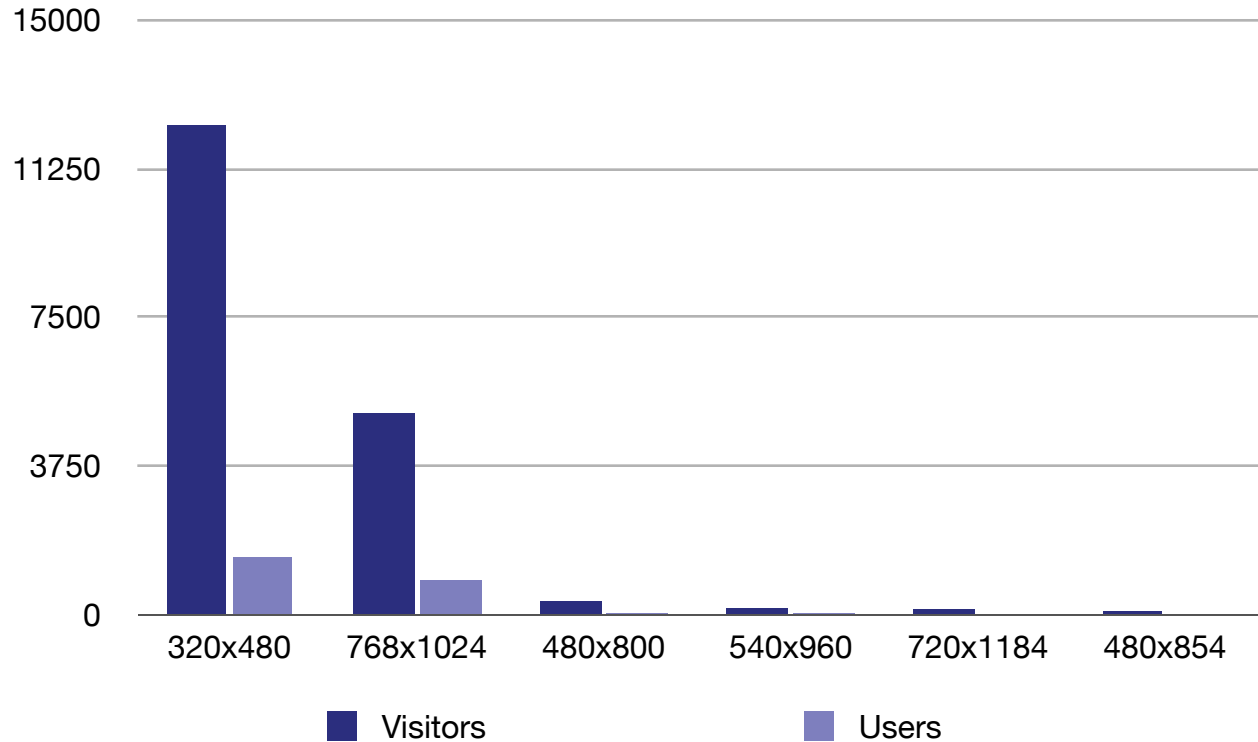
## Visits by Network Type



● WIFI    ● 3G    ● 4G    ● Edge
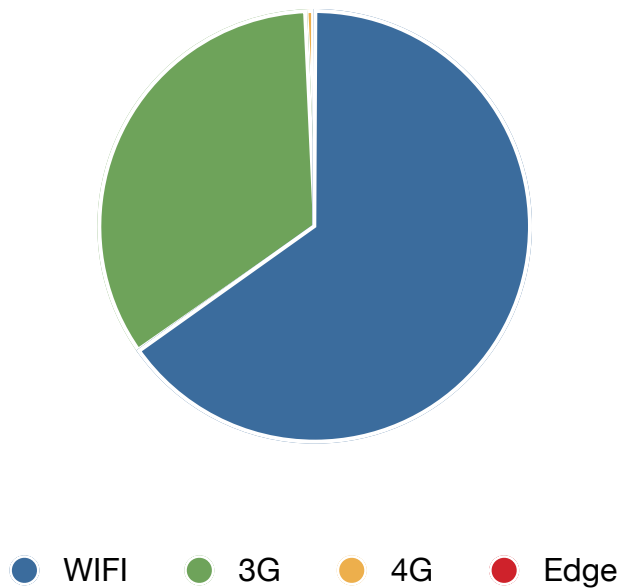
| iOS Device Model | Visits | Percentage of Visits |
|---|---|---|
| WIFI | 7,115 | 65% |
| 3G | 3,720 | 34% |
| 4G | 65 | 1% |
| Edge | 7 | 0% |

## Screen Resolution

The following charts show the screen resolutions across iOS and Android platforms by the number of visits and number of users. We currently don't track screen resolution on the Blackberry platform.
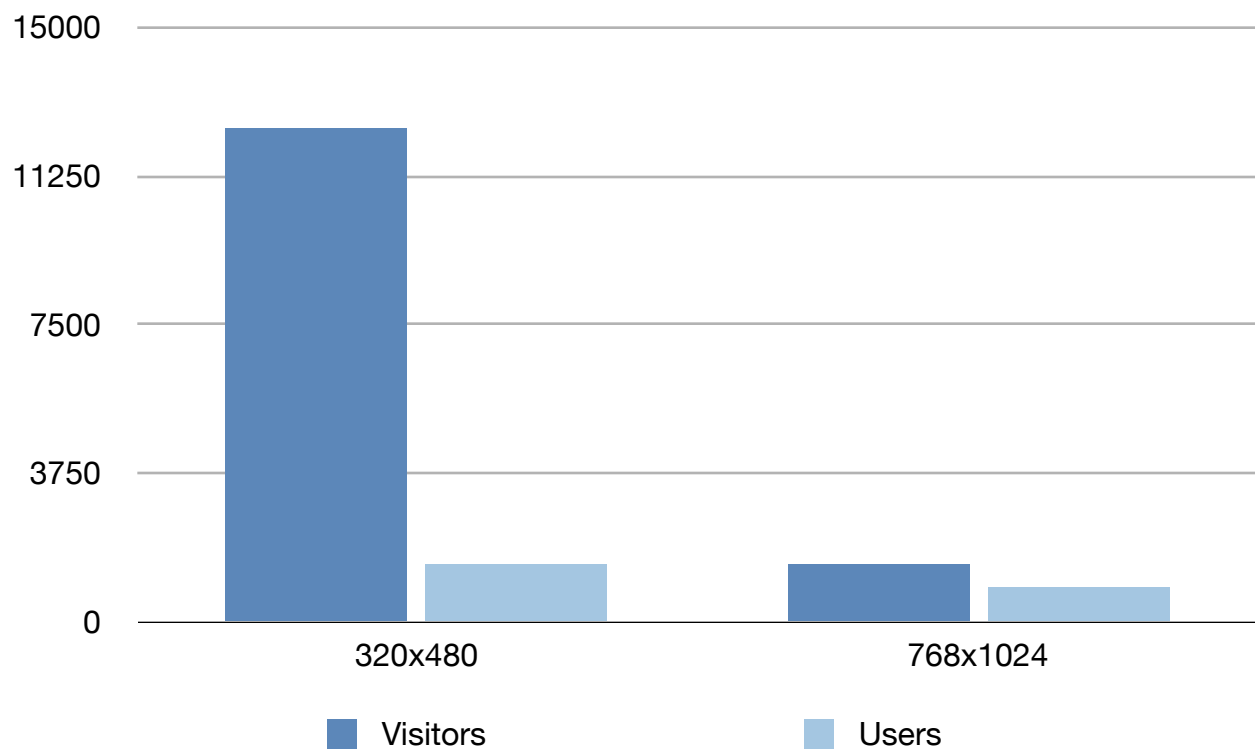


| Screen Resolution | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| 320x480 | 12,482 | 67.5% | 1,465 | 58.9% |
| 768x1024 | 5,137 | 27.8% | 884 | 35.5% |
| 480x800 | 362 | 2.0% | 46 | 1.8% |
| 540x960 | 185 | 1.0% | 35 | 1.4% |
| 720x1184 | 146 | 0.8% | 5 | 0.2% |
| 480x854 | 108 | 0.6% | 16 | 0.6% |
| 960x540 | 19 | 0.1% | 8 | 0.3% |
| 1280x752 | 18 | 0.1% | 8 | 0.3% |
| 800x480 | 10 | 0.1% | 7 | 0.3% |
| 600x1024 | 8 | 0.0% | 2 | 0.1% |
| 854x480 | 6 | 0.0% | 3 | 0.1% |
| 800x1232 | 4 | 0.0% | 3 | 0.1% |
| 720x1280 | 3 | 0.0% | 2 | 0.1% |
| 240x320 | 2 | 0.0% | 1 | 0.0% |
| 800x444 | 2 | 0.0% | 1 | 0.0% |
| 1196x720 | 1 | 0.0% | 1 | 0.0% |
| 480x320 | 1 | 0.0% | 1 | 0.0% |

**Android Screen Resolution**
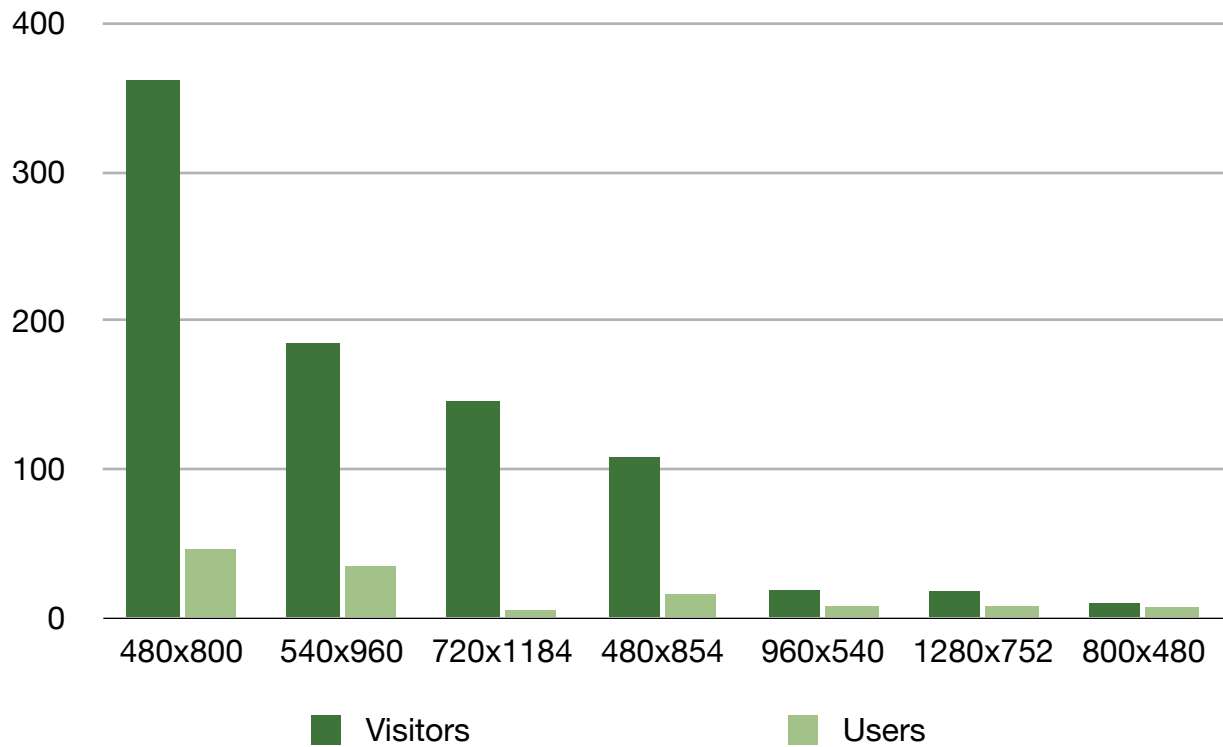


| Screen Resolution | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| 480x800 | 362 | 40.3% | 46 | 31.3% |
| 540x960 | 185 | 20.6% | 35 | 23.6% |
| 720x1184 | 146 | 16.3% | 5 | 3.4% |
| 480x854 | 108 | 12.0% | 16 | 10.8% |
| 960x540 | 19 | 2.1% | 8 | 5.4% |
| 1280x752 | 18 | 2.0% | 8 | 5.4% |
| 800x480 | 10 | 1.1% | 7 | 4.7% |
| 600x1024 | 8 | 0.9% | 2 | 1.4% |
| 854x480 | 6 | 0.7% | 3 | 2.0% |
| 800x1232 | 4 | 0.4% | 3 | 2.0% |
| 720x1280 | 3 | 0.3% | 2 | 1.4% |
| 240x320 | 2 | 0.2% | 1 | 0.7% |
| 800x444 | 2 | 0.2% | 1 | 0.7% |
| 1196x720 | 1 | 0.1% | 1 | 0.7% |
| 480x320 | 1 | 0.1% | 1 | 0.7% |

**iOS Screen Resolution**



| iOS Screen Resolution | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| 320x480 | 12,464 | 70.8% | 1,457 | 62.2% |
| 768x1024 | 5,137 | 29.2% | 884 | 37.8% |

# Audience

## Centers

The following charts show the activity by visits and users across all NASA centers.
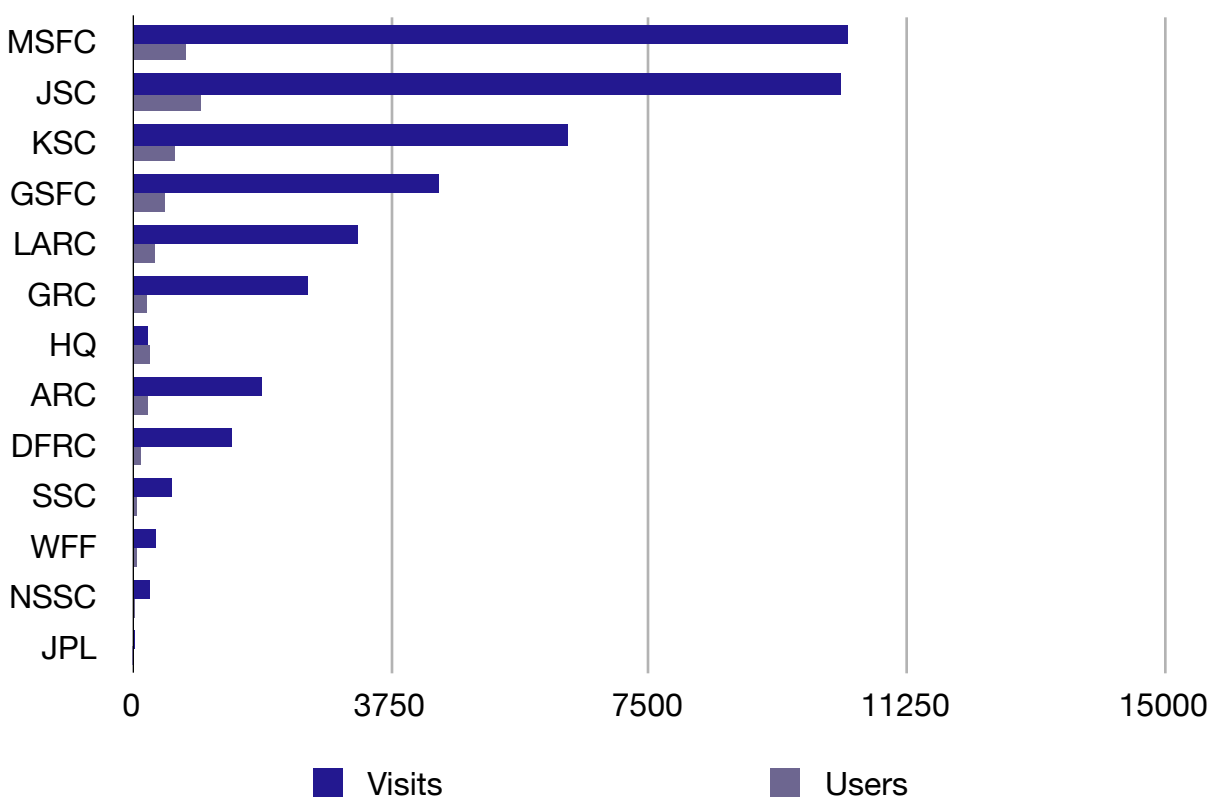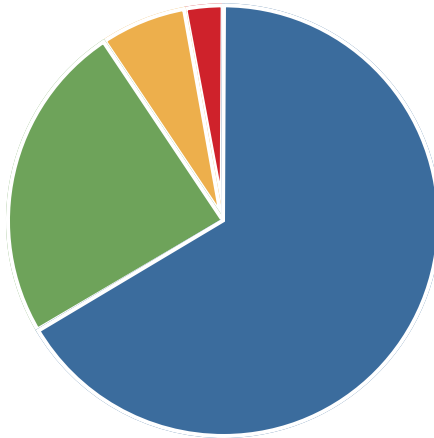


| Center | Visits | Percentage of Visits | Users | Percentage of Users |
|--------|--------|----------------------|-------|---------------------|
| MSFC | 10,394 | 23.6% | 763 | 18.8% |
| JSC | 10,283 | 23.4% | 989 | 24.3% |
| KSC | 6,323 | 14.4% | 609 | 15.0% |
| GSFC | 4,443 | 10.1% | 469 | 11.5% |
| LARC | 3,263 | 7.4% | 314 | 7.7% |
| GRC | 2,547 | 5.8% | 204 | 5.0% |
| HQ | 2,211 | 5.0% | 241 | 5.9% |
| ARC | 1,874 | 4.3% | 219 | 5.4% |
| DFRC | 1,439 | 3.3% | 113 | 2.8% |
| SSC | 566 | 1.3% | 59 | 1.5% |
| WFF | 326 | 0.7% | 50 | 1.2% |
| NSSC | 248 | 0.6% | 29 | 0.7% |
| JPL | 25 | 0.1% | 8 | 0.2% |

# Users

## Multi-Device Usage

The following charts shows how many devices NASA users are accessing applications with. The first chart shows of all the visits, how many were by users with only one device, two devices, etc. The second shows how many users have one device, two devices, etc.

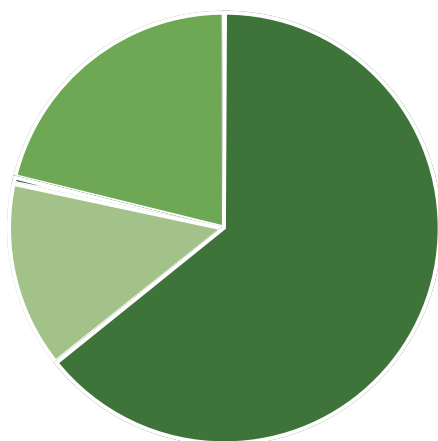### Users By Number of Devices          Visits By Numbers of Devices
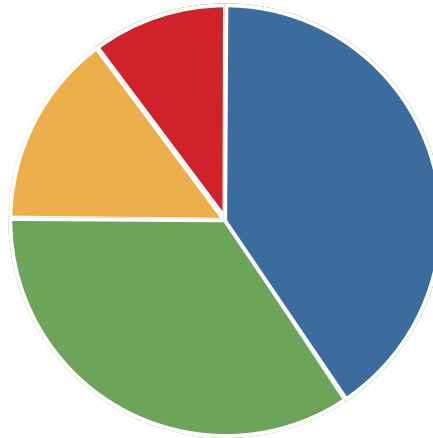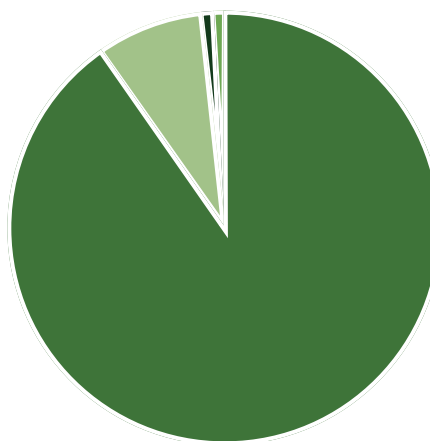


⬤ One    ⬤ Two    ⬤ Three    ⬤ Four or More

| Number of Devices | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| One | 17,851 | 40.6% | 2,705 | 66.5% |
| Two | 15,208 | 34.6% | 982 | 24.1% |
| Three | 6,438 | 14.6% | 263 | 6.5% |
| Four or More | 4,479 | 10.2% | 117 | 2.9% |

**Multi-Android Usage**

### Visits By Numbers of Devices          Users By Number of Devices
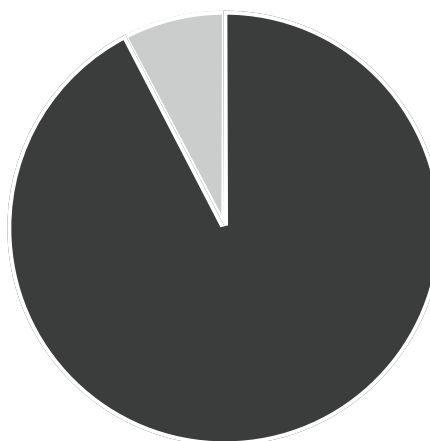


● One      ● Two      ● Three      ● Four or More

| Number of Android Devices | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| One | 531 | 64.3% | 102 | 90.3 |
| Two | 116 | 14.0% | 9 | 8.0% |
| Three | 4 | 0.5% | 1 | 0.9% |
| Four or More | 175 | 21.2% | 1 | 0.9% |

**Multi-Blackberry Usage**

### Visits By Numbers of Devices
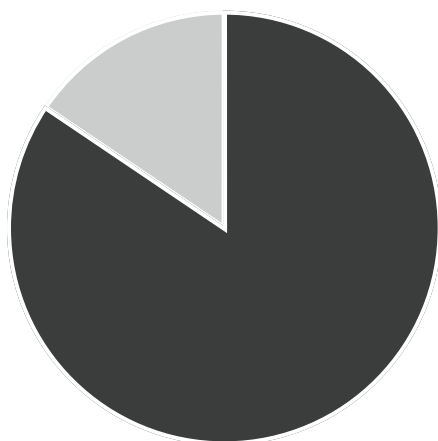
### Users By Number of Devices



⬤ One    ⚪ Two    ⬤ Three    ⚫ Four or More

| Number of Blackberry Devices | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| One | 2,827 | 84.4% | 398 | 92.3 |
| Two | 521 | 15.6% | 33 | 7.7% |
| Three | 0 | 0 | 0 | 0 |
| Four or More | 0 | 0 | 0 | 0 |

**Multi-iOS Usage**

### Visits By Numbers of Devices
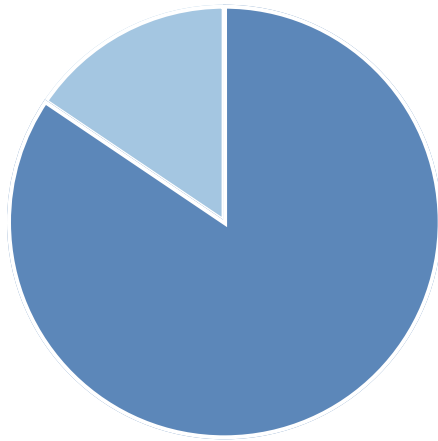
### Users By Number of Devices
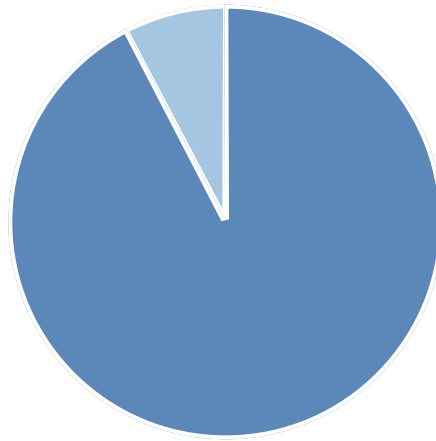


● One  ● Two  ● Three  ● Four or More

| Number of iOS Devices | Visits | Percentage of Visits | Users | Percentage of Users |
|---|---|---|---|---|
| One | 16,184 | 40.7% | 2,451 | 66.7% |
| Two | 13,959 | 35.1% | 889 | 24.2% |
| Three | 5,729 | 14.4% | 229 | 6.2% |
| Four or More | 3,930 | 9.9% | 106 | 2.9% |

# Application

## Downloads

[Apps@NASA](#) went live in March 2012. The following chart shows the total number of downloads for each month since the initial release.
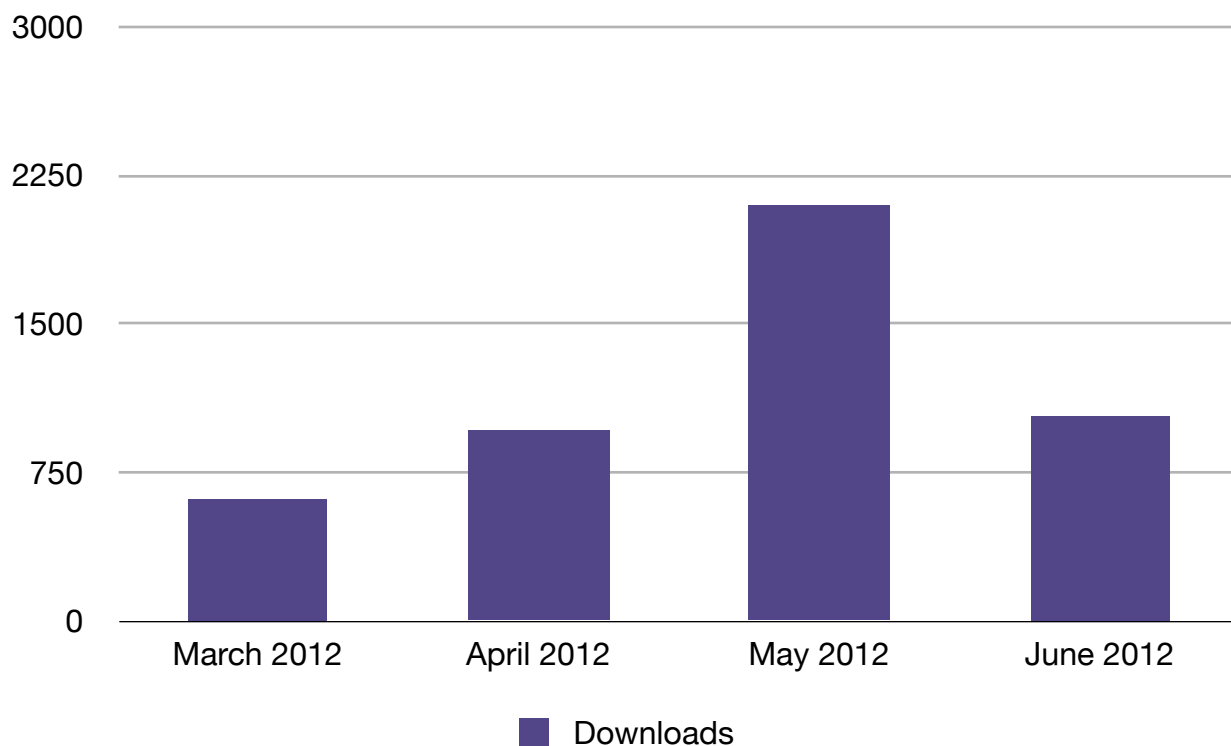


| Month | Downloads |
|-----------|-----------|
| March 2012 | 620 |
| April 2012 | 964 |
| May 2012 | 2,099 |
| June 2012 | 1,036 |

# Analysis

## Decline of Blackberry

The trouble facing with RIM and Blackberry are well documented. The number of BlackBerry phones sold fell 41% year-on-year in the second fiscal quarter of 2012. Many predict the company will be insolvent in the next couple of years.

Our numbers show the a steady decline in Blackberry traffic over the last year and half. The following charts show the total number of visits and users per month for an application that supports the iOS and Blackberry platforms since February 2011.

### Visits by Month

## Users by Month
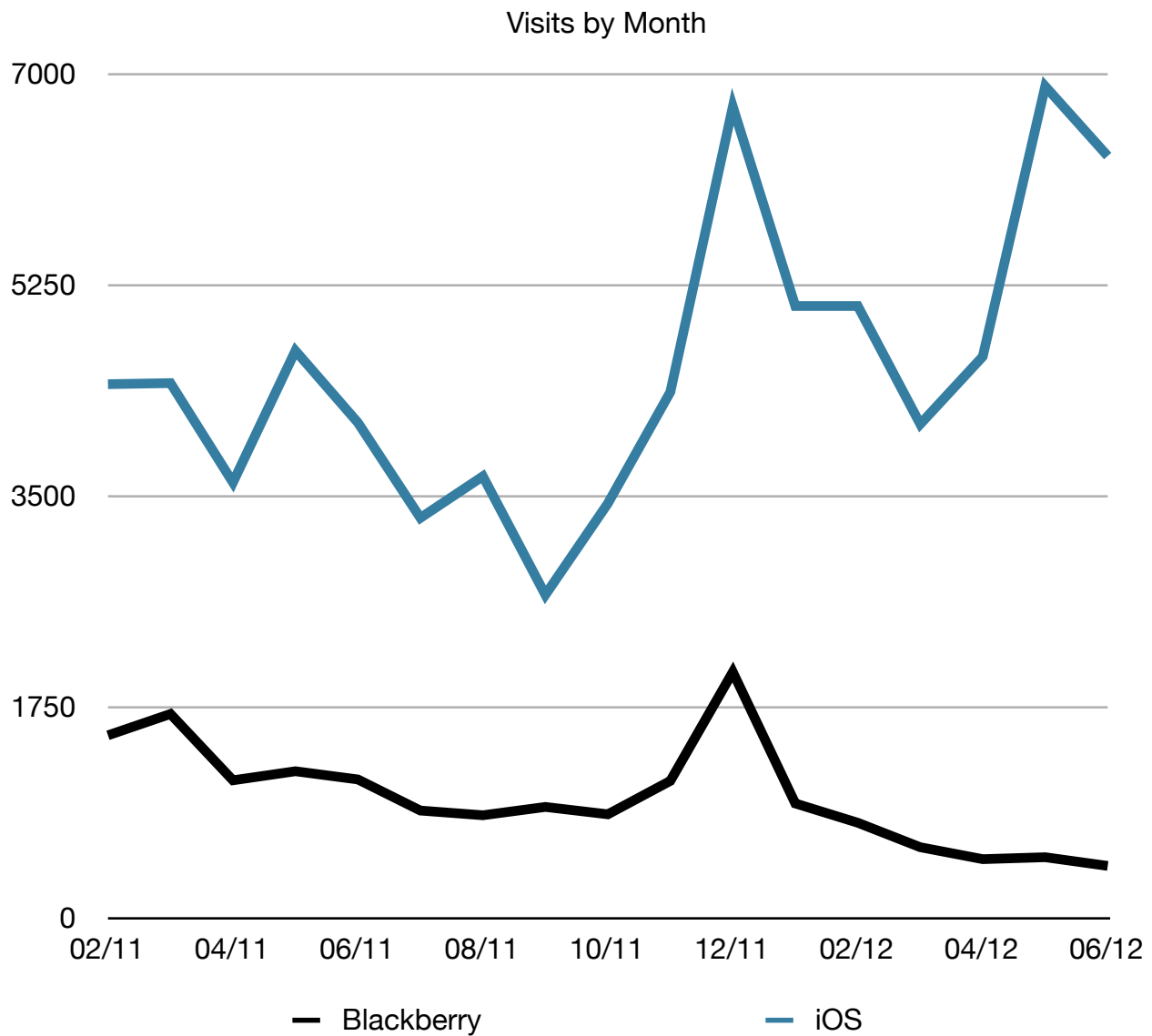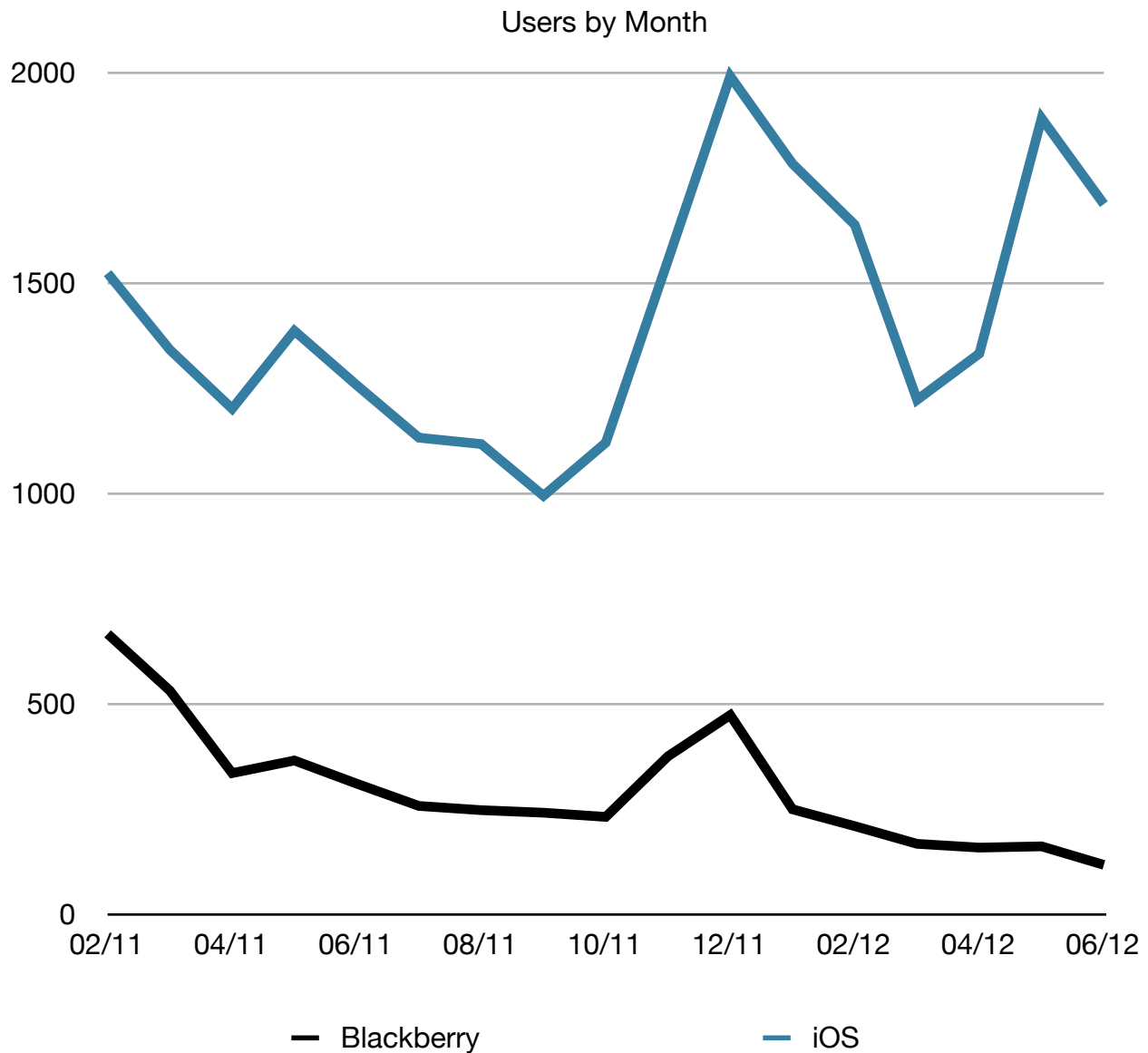


Bear in mind these numbers are somewhat insulated from what the market is seeing because many employees with NASA issued phones aren't given choice on what they get. The decline is still definite though. During this time we've seen 790 Blackberry users stop accessing this application all together and 316 users switch from Blackberry to iPhone.

It will be interesting to see how many Blackberry users we have at the end of the year. If Blackberry usage keeps trending down does it continue to make sense spending the effort required to support these platforms?

# iPad Usage

We've been surprised at how much tablets (i.e. iPads) are currently used with NASA's internal mobile applications. 24% of users (1,396) have accessed a mobile application at least once with an iPad. 424 users access mobile applications with just an iPad. 189 users access mobile applications with an iPad and non-iOS phone (Android or Blackberry).

In May of 2012 we made a public announcement that an iPad version of a mobile application was now available. The following chart show the iOS visits and users by device model type since that time.
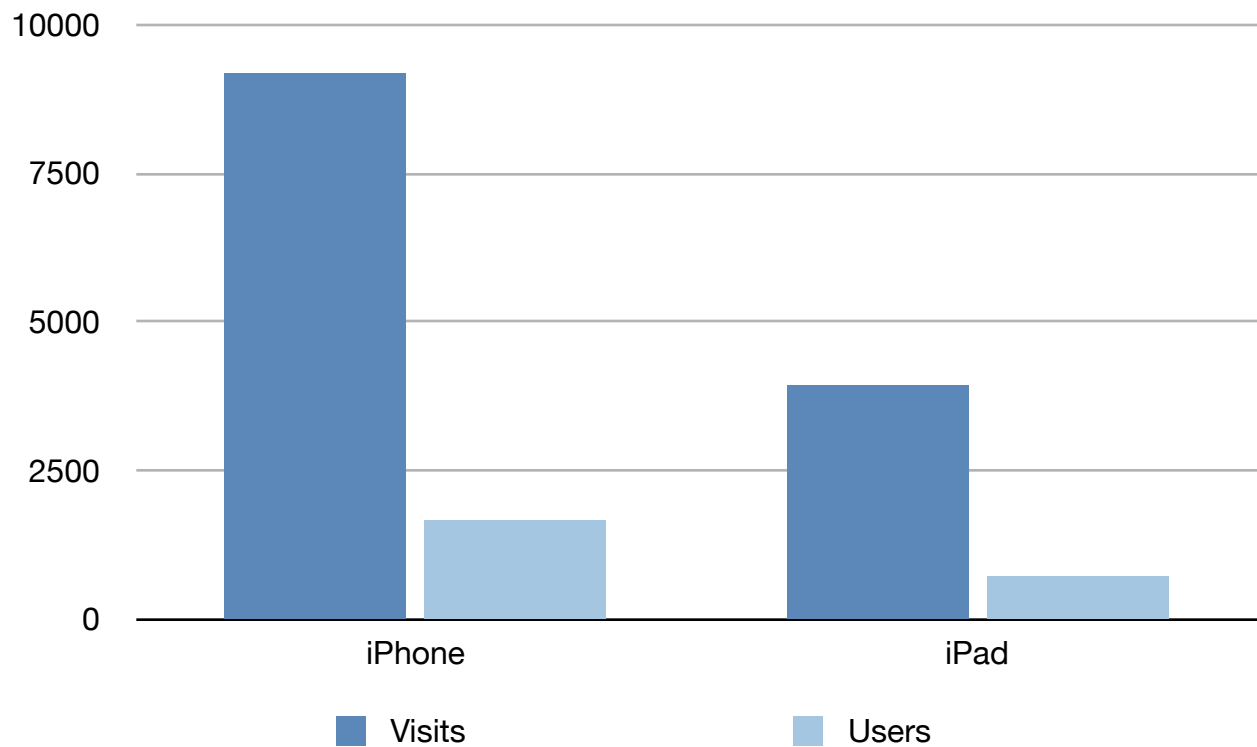


| iOS Device Model | Visits | Percentage of Visits | Users | Percentage of Users |
|:---:|:---:|:---:|:---:|:---:|
| iPhone | 9,195 | 70.0% | 1673 | 69.4% |
| iPad | 3,944 | 30.0% | 737 | 30.6% |

During this time users with iPads has accounted for 30% of the total activity. The takeaway from these numbers is that optimizing your application for tablet usage (particularly iPad) is extremely important. Tablets provide significantly more screen real estate than phones and users expect a different (better) experience when using mobile applications for this form factor.